

REMARKS

Claims 2, 3, 5, 11, 12, 13, 15, and 21-23 are pending. By this Amendment, claims 2, 3, 5, 11, 13, 15 22 and 23 are amended and claims 4, 6-10, and 14-20 are canceled.

The Office Action rejects claims 5, 15, and 20 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The dependency of claims 5 and 15 has been corrected. Withdrawal of the rejection is requested.

The Office Action rejects claims 2, 3, 5, 11-13, 15, and 21-23 under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over *Hwang et al* for the reasons of record.

The cited references including Hwang et al. only show a medium having a dual thickness for improving wear resistance, but are silent with regard to a medium having an amorphous layer in the CSS/ramp load area, being composed mainly of carbon, a combination of carbon and nitrogen, or a combination of carbon, nitrogen and hydrogen, and DLC layer in the CSS/ramp load area, being mainly composed of carbon and hydrogen (see column 8, line 63 to column 9, line 20 of USP 6,403,194).

By determining the composition of the protective layers as described above, a reliability on resistance to both CSS area and data area of a magnetic medium is achieved as proved by the comparison studies between the Embodiment 6 and Comparative Example 10 in the specification.

Thus, claims 2 and 11 are not merely directed to optimizing the properties of the lower layer and the upper layer of the protective layer for adhesion and durability, but directed to optimizing the properties of the protective layer in CSS/ramp load area and the data area by determining the composition of the layer in each area. Even though

Hwang discloses a magnetic medium with a dual thickness of the protective layer in the CSS area and the data area, it is not sufficient for reliability on resistance to CSS area and data area without determining composition of the layer in both CSS area and data area in the same way as disclosed in the present invention.

Therefore, it would not have been obvious to one of ordinary skill in the art to form a medium having an amorphous layer in the CSS/ramp load area, being composed mainly of carbon, a combination of nitrogen and hydrogen, or a combination of carbon, nitrogen and hydrogen, and DLC layer in the CSS/ramp load area, being mainly composed of carbon and hydrogen.

(2) Claims 3 and 13

None of the cited references discloses the hardness of the layers such as a hardness of 19 GPa or more for DLC and 15-19 GPa for an amorphous layer in order to achieve reliability on resistance both in the CSS/ramp load area and the data area. Claims 3 and 13 are directed to optimizing the properties of the protective layer in CSS/ramp load area and the data area by determining the hardness of the layers in each area. The protective film protects from an injury when a hardness in the data area is more than 19 GPa, and the protective film is liable to be worn away and is liable to be fractured by shear stress due to sliding on the head when a hardness in the CSS/ramp load area is 15-19 GPa (see column 6, line 60 to column 7, line 9 of USP 6,403,194). This is clearly proved by the comparison studies between Embodiments 1 and 2 and Comparative Examples in the specification.

Thus, it can be concluded that merely having a dual thickness is not sufficient for improving reliability on resistance, various factors such as a wear resistance, reliability to a fraction by shear stress, and injury of the film need to be considered when optimizing hardness of the protective layers.

Therefore, it would not have been obvious to one of ordinary skill in the art to determine the hardness of 15-19 GPa in the CSS/ramp load area and 19 GPa or more in the data area.

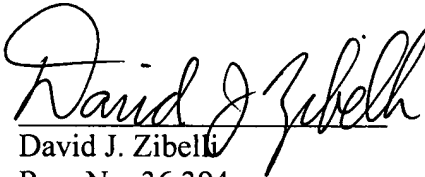
For the above reasons, it is submitted that none of the pending claims are anticipated by or obvious over the applied references. Withdrawal of the rejections is requested.

The Examiner is invited to contact the undersigned at (202) 220-4200 to discuss any matter concerning this application.

The Office is authorized to charge any additional fees under 37 C.F.R. § 1.16 or § 1.17 or credit of any overpayment to Kenyon & Kenyon Deposit Account No. 11-0600.

Respectfully submitted,

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